DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 70.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-008783
Date Inspected: 25-Aug-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Japan Steel Works

OSM Arrival Time: 700
OSM Departure Time: 1630
Location: Muroran, Japan

CWI Name: Chung Fu Kuan

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower, Jacking, and Deviation Saddles

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. Art Peterson was present during the times noted above for observations relative to the work being performed in Fabrication shop #4 and the Foundry at Japan Steel Works.

Fabrication Shop #4:

Weld Operation in-process on Middle Stiffener plates of Saddle: Tower Saddle Segment T1-3

The QA Inspector observed the partial-joint penetration (PJP) tee-joint groove (root and fill pass) weld operation on the 2nd side of the middle stiffener plates to the rib (cast section) and the trough (cast section) and the rib plate (built-up section) to stem plate (built-up section) of tower saddle T1-3. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the PJP groove weld operation that the minimum preheat temperature of 150 degrees Celsius was maintained on the middle stiffener plates and the welding parameters of JSW welding personnel Mr. T. Kawakami (08-5079) on middle stiffener plate no. 9ST-24, Mr. M. Kashiwada (08-2008) on middle stiffener plate no. 9ST-23, Mr. M. Kubota (74-3666) on middle stiffener plate no. 9ST-21, and Mr. R. Iizuka (06-2643) on middle stiffener plate no's. 9ST-19 and 9ST-20 were in compliance with WPS SJ-3012-8-1 and WPS SJ-3012-8-2 per the FCAW-G and SMAW process in the (2F) horizontal position using (1.6) mm diameter TM55 electrode and (4.0) mm diameter LB52 electrode. The QA Inspector observed that the PJP tee-joint groove (root and fill pass) weld operation on the 2nd side of the middle stiffener plates were in-process at the end of the QA Inspectors' shift.

NDT Operation in-process on Saddle: West Deviation Saddle Segment W2-W3

The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) NDT Inspector Mr. R. Kumagai (#132) performing the magnetic particle test (MPT) inspection (dry method) on the partial-joint

penetration (PJP) groove welds on the rib plate (built-up section) to rib (cast section) and the stem plate (built-up section) to stem (cast section) after the final post weld heat treatment (PWHT) stress relief operation of west deviation saddle segment W2-W3. The QA Inspector observed that the MPT inspection was in process at the end of the QA Inspectors' shift.

Fit-up and Tack-Weld Operation in-process on Pipe Sleeves for the West Deviation and West Jacking Saddles
The QA Inspector observed the fit-up and tack-weld operation on the ASTM A709M Grade 345 steel flange to ASTM A106 (2") schedule 80 pipe to a length of (998.5) mm (+ 0 / - 3) for pipe sleeves on the west deviation and the west jacking saddles. The QA Inspector observed Quality Control (QC) Inspector Mr. Chung Fu Kuan verify prior to and during the tack-weld operation that the minimum preheat temperature of 110 degrees Celsius was maintained and the welding parameters of JSW welding personnel Mr. Y. Ohta (08-2017) were in compliance with WPS SJ-3012-5 per the SMAW process in the (2F) horizontal position using (4.0) mm diameter LB52 electrode. The QA Inspector observed that the fit-up and tack-weld operation was in process on the pipe sleeves at the end of the QA Inspectors' shift.

ABF-RFI-001811R00: Modified MC Shapes for East Saddle Rocker Bearing Plates E2-E1 and E2-W1
1) The QA Inspector observed (2) JSW personnel performing the flatness inspection on east saddle rocker bearing plate E2-W1 after the fillet weld operation was completed per the SMAW process in the (2F) horizontal position at (8) locations where the (70) mm radius was cut into the bottom flange of the modified Miscellaneous Channel (MC) shape (13 * 31.8). See ABF-RFI-001811R00 for the purpose of the modification on the MC shape. On this date, the QA Inspector observed that the total time spent in performing the flatness inspection on the rocker bearing plate was (3) hours for (2) JSW welding personnel.
2) The QA Inspector observed (1) JSW personnel performing the air-carbon arc gouge operation to remove the clamps previously welded to the rocker bearing plate fixture to hold east saddle rocker bearing plate E2-W1 in position for the fillet weld operation performed on the JIS channel to the modified MC shape (13 * 31.8) and the modified MC shape to the rocker bearing plate. On this date, the QA Inspector observed that the total time spent in performing the air-carbon-arc gouge operation on the rocker bearing plate fixture was (8) hours for (1) JSW welding personnel.

Foundry:
Grinding Operation in-process on Saddle: East Saddle E2-E1 (cast saddle)
The QA Inspector observed (2) JSW personnel were in process performing the grinding operation on the major excavation and minor excavation repair welds previously performed on east saddle E2-E1. The purpose of the JSW personnel performing the grinding operation is to grind the repair welds to an acceptable profile in accordance with ASTM A802 surface quality category (J) - (metal removal marks- welds) to a visual quality level (3). The QA Inspector observed that the grinding operation was still in-process at the end of the QA Inspectors' shift.

NDT Operation in process on Cast Saddle: West Jacking Saddle
The QA Inspector observed Nikko Inspection Services (NIS) Quality Control (QC) Non-Destructive Testing (NDT) Inspector Mr. A. Seino (#82) performing the liquid penetrant test (PT) inspection on the ground out excavated areas to ensure the complete removal of defects at various locations on the outside of the trough section, stem section and rib sections of the west jacking saddle. The PT inspection is being performed first on the excavated areas prior to the magnetic particle test (MPT) inspection (wet method) as per JSW's manufacturers

procedure plan (MPP) for the west jacking saddle. The QA Inspector observed that NDT QC Inspector Mr. A. Seino observed rejectable indications on some of the excavated areas during the PT inspection and the grinding operation will be required on the excavated areas to ensure the complete removal of the rejectable indications observed. The QA Inspector observed that the PT inspection was in process on the remaining excavated areas at the end of the QA Inspectors' shift.

Unless otherwise noted, all observations reported on this date appeared to be in general compliance with the applicable contract specifications.

Summary of Conversations:

No significant conversations were reported on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy at (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Peterson,Art	Quality Assurance Inspector
Reviewed By:	Guest,Kittric	QA Reviewer